

**APPLICATION**

**FOR**

**UNITED STATES LETTERS PATENT**

TO ALL WHOM IT MAY CONCERN;

BE IT KNOWN THAT I, **TODD SNELL**, a citizen of the United States, have  
invented new and useful improvements in a

**GUTTER COVER HANGER APPARATUS**

of which the following is a specification:

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# **GUTTER COVER HANGER APPARATUS**

## **BACKGROUND OF THE INVENTION**

### **Field of the Invention**

The present invention relates generally to brackets which support gutter covers, and, more particularly, to gutter cover brackets which include a first support structure for attaching to the gutter and which include a second support structure for attaching to the gutter cover.

### **Description of the Prior Art**

10 Gutters are placed next to roofs to collect water runoff from a roof and to direct water runoff away from a building structure. At times, leaves and other debris can accumulate in the gutters and can clog the drain holes of the gutters. To prevent this from happening, gutter covers can be installed over the gutters to prevent debris from accumulating in the gutters. To support the gutter covers, gutter cover support means are provided. In this respect, throughout the years, a number of innovations have been developed relating to means for supporting gutters and gutter covers, and the following U. S. patents are representative of some of those innovations: 4,000,587, 4,757,649, 4,876,827, 5,388,377, and 5,845,435.

20 More specifically, U. S. Patent No. 4,000,587 discloses a gutter structure and a bracket for supporting the gutter. No gutter cover is provided. In this respect,

it would be desirable if a gutter cover were provided and if a hanger were provided for supporting the gutter cover.

U. S. Patent No. 4,757,649 a gutter cover which is supported by nails which directly penetrate the gutter cover. When nails are hammered, the nails are often missed and any adjacent area to the missed nail is often hit and damaged by the hammer. In this respect, with such nails, it is very likely that a hammer may damage the gutter cover when nails are being hammered to install the gutter cover. To avoid such damage to a gutter cover, it would be desirable if a hanger were provided which supports a gutter cover without the need for hammering nails to support the gutter cover.

U. S. Patent No. 4,876,827 discloses a gutter cover which is supported at one end directly by the lip of the gutter. As a result, if the gutter cover is to be replaced for whatever reason, there is risk for damaging the lip of the gutter in order to remove the gutter cover. In this respect, it would be desirable if a gutter cover were not supported directly by the lip of the gutter.

U. S. Patent No. 5,388,377 a gutter which has an gutter lip which includes an extension for receiving a gutter cover. Most conventional gutters do not include such an extension for receiving a gutter cover. In this respect, it would be desirable if a hanger were provided for supporting a gutter cover which can be retrofitted to a conventional gutter.

U. S. Patent No. 5,845,435 discloses hangers which can support a gutter cover. Each hanger disclosed in this patent provides a first coupling portion which extends downwardly from a front, intermediately located, support end of the hanger. Also, each hanger in this patent provides a second coupling portion which extends upwardly from the front, intermediately located, support end of the hanger. The first coupling portion engages the gutter lip, and the second coupling portion engages the gutter cover. Because the first coupling portion is below the level of the intermediately located, support end of the hanger and because the second coupling portion is above the intermediately located, support end of the hanger, opposing tensional forces on the intermediately located, support end of the hanger can occur. Such opposing forces may periodically shift in intensity depending upon rain, runoff, and wind factors thereby resulting in alternating pushes and pulls experienced by the hangers. To avoid such problems, it would be desirable if a hanger were provided in which both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover were located above a bottom located, support end of the hanger.

Still other features would be desirable in a gutter cover hanger apparatus. For example, it is noted that in U. S. Patent No. 5,845,435, each of the first coupling portion and the second coupling portion is a single sheet or layer structure. Such a single sheet of layer structure may have limited strength capabilities. In this respect, it would be desirable for a hanger if both the first coupling portion for a gutter lip and the second coupling portion for a gutter cover

were provided with internal reinforcement structures to provide for increased strength for the respective coupling portions.

It is further noted that with the hangers disclosed in U. S. Patent No. 5,845,435, the support nails are received and hammered into vertically oriented building fascia in a horizontal orientation. In general, support nails that are in a horizontal orientation are more susceptible to the downward forces of gravity, and to be loosened thereby, when installed in a vertically oriented structure than support nails that are installed in an upwardly obliquely oriented orientation with respect to a vertically oriented structure. Therefore, it would be desirable if a gutter cover hanger apparatus were provided which included a support-nail-reception portion which receives a support nail in an upwardly obliquely oriented orientation with respect to a vertically oriented structure so that the support nail can be driven into the vertically oriented structure at an upwardly obliquely oriented orientation.

Thus, while the foregoing body of prior art indicates it to be well known to use different means for supporting a gutter cover, the prior art described above does not teach or suggest a gutter cover hanger apparatus which has the following combination of desirable features: (1) provides a hanger for supporting the gutter cover; (2) provides a hanger which supports a gutter cover without the need for hammering nails to support the gutter cover; (3) provides a support for the gutter cover which is not supported directly by the lip of the gutter; (4) provides a hanger for supporting a gutter cover which can be retrofitted to a conventional gutter; (5)

provides a hanger in which both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover are located above a bottom-located, support end of the hanger; (6) provides both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover which have internal reinforcement structures to provide for increased strength for the respective coupling portions; and (7) provides a gutter hanger which includes a support-nail-reception portion which receives a support nail in an upwardly obliquely oriented orientation with respect to an vertically oriented structure so that the support nail can be driven into the vertically oriented structure at an upwardly obliquely oriented orientation. The foregoing desired characteristics are provided by the unique gutter cover hanger apparatus of the present invention as will be made apparent from the following description thereof. Other advantages of the present invention over the prior art also will be rendered evident.

## SUMMARY OF THE INVENTION

To achieve the foregoing and other advantages, the present invention, briefly described, provides a gutter cover hanger apparatus includes a bottom-located support structure. A gutter engagement portion extends upward from a front portion of the bottom-located support structure. A gutter cover engagement portion extends upward from a middle portion of the bottom-located support structure, and the gutter cover engagement portion is located at a higher position than the gutter engagement portion. A support-fastener-reception portion extends upward from a rear portion of the bottom-located support structure.

10        Preferably, the support-fastener-reception portion includes a fastener-reception channel which extends downwardly and rearwardly obliquely with respect to the bottom-located support structure. Also, preferably, the support-fastener-reception portion extends upwardly and rearwardly obliquely with respect to the bottom-located support structure.

The gutter engagement portion extends above the bottommost surface of the bottom-located support structure by a first height, and the gutter cover engagement portion extends above the bottommost surface of the bottom-located support structure by a second height. The second height is greater than the first height.

20        The gutter cover engagement portion can include a convex front end for engaging a complementary concave inside surface of the front end of a gutter

cover. The gutter engagement portion can include an L-shaped gutter engagement portion for engaging a complementary front end of a gutter.

Preferably, the bottom-located support structure includes reinforcement members for reinforcing the gutter engagement portion and the gutter cover engagement portion.

10 The above brief description sets forth rather broadly the more important features of the present invention in order that the detailed description thereof that follows may be better understood, and in order that the present contributions to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will be for the subject matter of the claims appended hereto.

In this respect, before explaining a preferred embodiment of the invention in detail, it is understood that the invention is not limited in its application to the details of the construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood, that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.



As such, those skilled in the art will appreciate that the conception, upon which disclosure is based, may readily be utilized as a basis for designing other structures, methods, and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

It is therefore an object of the present invention to provide a new and improved gutter cover hanger apparatus which has all of the advantages of the prior art and none of the disadvantages.

10        It is another object of the present invention to provide a new and improved gutter cover hanger apparatus which may be easily and efficiently manufactured and marketed.

It is a further object of the present invention to provide a new and improved gutter cover hanger apparatus which is of durable and reliable construction.

An even further object of the present invention is to provide a new and improved gutter cover hanger apparatus which is susceptible of a low cost of manufacture with regard to both materials and labor, and which accordingly is then susceptible of low prices of sale to the consuming public, thereby making such gutter cover hanger apparatus available to the buying public.

Still yet a further object of the present invention is to provide a new and improved gutter cover hanger apparatus which provides a hanger for supporting the gutter cover.

Still another object of the present invention is to provide a new and improved gutter cover hanger apparatus that provides a hanger which supports a gutter cover without the need for hammering nails to support the gutter cover.

Yet another object of the present invention is to provide a new and improved gutter cover hanger apparatus which provides a support for the gutter cover which is not supported directly by the lip of the gutter.

10 Even another object of the present invention is to provide a new and improved gutter cover hanger apparatus that provides a hanger for supporting a gutter cover which can be retrofitted to a conventional gutter.

Still a further object of the present invention is to provide a new and improved gutter cover hanger apparatus which provides a hanger in which both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover are located above a bottom-located, support end of the hanger.

Yet another object of the present invention is to provide a new and improved gutter cover hanger apparatus that provides both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover which have internal

reinforcement structures to provide for increased strength for the respective coupling portions.

Still another object of the present invention is to provide a new and improved gutter cover hanger apparatus which provides a gutter hanger which includes a support-nail-reception portion which receives a support nail in an upwardly obliquely oriented orientation with respect to an vertically oriented structure so that the support nail can be driven into the vertically oriented structure at an upwardly obliquely oriented orientation.

10        These together with still other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

## BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and the above objects as well as objects other than those set forth above will become more apparent after a study of the following detailed description thereof. Such description makes reference to the annexed drawing wherein:

Figure 1 is a perspective view, partially broken away, showing a preferred embodiment of the gutter cover hanger apparatus of the invention installed on a vertically oriented building fascia between a gutter and a gutter cover.

10      Figure 2 is an enlarged cross-sectional view of the embodiment of the gutter cover hanger apparatus shown in Figure 1 taken along line 2-2 of Figure 1.

Figure 3 is an enlarged perspective view of the embodiment of the gutter cover hanger apparatus of Figure 2 removed from the vertically oriented building fascia, the gutter, and the gutter cover.

Figure 4 is a side view of the embodiment of the invention shown in Figure 3.

Figure 5 is a bottom view of the embodiment of the invention shown in Figure 4, taken along line 5-5 thereof.

Figure 6 is a top view of the embodiment of the invention shown in Figure 4, taken along line 6-6 thereof.

Figure 7 is an edge view of the embodiment of the invention shown in Figure 4, taken along line 7-7 thereof.

Figure 8 is an edge view of the embodiment of the invention shown in Figure 4, taken along line 8-8 thereof.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the drawings, a new and improved gutter cover hanger apparatus embodying the principles and concepts of the present invention will be described.

Turning to Figures 1-8, there is shown a preferred embodiment of the gutter cover hanger apparatus of the invention generally designated by reference numeral 10. In the preferred embodiment, gutter cover hanger apparatus 10 includes a bottom-located support structure 12. A gutter engagement portion 14 extends upward from a front portion of the bottom-located support structure 12. A gutter cover engagement portion 16 extends upward from an intermediate or middle portion of the bottom-located support structure 12, and the gutter cover engagement portion 16 is located at a higher position than the gutter engagement portion 14. A support-fastener-reception portion 18 extends upward from a rear portion of the bottom-located support structure 12.

Preferably, the support-fastener-reception portion 18 includes a fastener-reception channel 20 which extends downwardly and rearwardly obliquely with respect to the bottom-located support structure 12. Also, preferably, the support-fastener-reception portion 18 extends upwardly and rearwardly obliquely with respect to the bottom-located support structure 12.

The gutter engagement portion 14 extends above the bottommost surface of the bottom-located support structure 12 by a first height 22, and the gutter cover engagement portion 16 extends above the bottommost surface of the bottom-located support structure 12 by a second height 24. The second height 24 is greater than the first height 22.

The gutter cover engagement portion 16 can include a convex front end 26 for engaging a complementary concave inside surface of the front end 25 of a gutter cover 21. The gutter engagement portion 14 can include an L-shaped gutter engagement portion for engaging a complementary front end of a gutter 13.

10        Preferably, the bottom-located support structure 12 includes reinforcement members 28 for reinforcing the gutter engagement portion 14 and the gutter cover engagement portion 16. As seen in Figures 3 and 4, the reinforcement members can include transverse ribs extending angularly between the bottom surface of the bottom support member 12 and the gutter engagement portion 14 and the gutter cover engagement portion 16 with the angular extent of the ribs being different along the longitudinal extent of the bottom support portion. If desired, a central vertical reinforcing web indicated by the shade lines in Figures 3 and 4 may also be provided to add even further strength with the web extending commonly through the bottom support portion, the gutter engagement portion and the gutter  
20        cover engagement portion, substantially as shown.

To use the gutter cover hanger apparatuses of the invention, as shown with greatest detail in Figures 1 and 2, a gutter 13 has been previously installed on a vertically oriented building fascia 15. The L-shaped gutter engagement portion 14 is engaged with the front lip 17 of the gutter 13. Then, the bottom-located support structure 12 is oriented horizontally, and a nail 19 is inserted in the downwardly and rearwardly obliquely oriented fastener-reception channel 20. Then, the nail 19 is hammered through the rear wall of the gutter 13 and into the vertically oriented building fascia 15. In this way, the nail 19 is downwardly and rearwardly obliquely oriented with respect to the vertically oriented building fascia 15.

10        Then, a gutter cover 21 is installed. To do so, a rear portion of the gutter cover 21 is slipped under roof shingles 23. The gutter cover 21 is shown to have a concave inside surface of its front end 25, and the complementary front end 25 of the gutter cover 21 is snapped over the convex front ends 26 of the gutter cover engagement portions 16 of a plurality of the gutter cover hanger apparatuses 10. By carrying out this procedure on a plurality of convex front ends 26 of gutter cover engagement portions 16 simultaneously, the gutter cover 21 is installed on the gutter cover hanger apparatuses and covers the greater portion of the gutter 13.

20        Once the installation steps have been taken, each of the gutter cover hanger apparatuses 10 is secured at their respective rear ends to the rear wall of the gutter 13 and the vertically oriented building fascia 15 by the nails 19 and at their respective front ends to the front lip 17 of the gutter 13.



Also, once the installation steps have been taken, the gutter cover 21 is secured in its installed status by the downward pressure of the roof shingles 23 and by the interengagement between the convex front ends 26 of the gutter cover engagement portions 16 and the concave inside surface of the front end 25 of the gutter cover 21. In accordance with the present invention, and as best seen in Figures 1 and 2 depicting an installed system, the front end portions of the gutter cover 21 and the upper extremity of the front end of the gutter 13 form a substantially evenly spaced longitudinally extending opening or gap through which water falling on the cover eventually falls into the gutter, but because of the narrowness of the gap and the geometry of the installed cover relative to the gutter, any debris (e.g. leaves, pine needles, or the like) falling on the cover remains for all intents and purposes out of the gutter. In this regard, it is noted that the front end edge 25 of the cover 21 when suitably installed is positioned slightly to the right of the front extremity of the gutter 13 (Figure 2) and that the concave end portion of the gutter cover slightly overhangs the gap.

The component portions of the gutter cover hanger apparatus of the invention can be made from inexpensive plastic and metal materials. Most preferably, the gutter hanger apparatus of the invention may advantageously be formed of a molded thermoplastic such as polypropylene, for example.

As to the manner of usage and operation of the instant invention, the same is apparent from the above disclosure, and accordingly, no further discussion relative to the manner of usage and operation need be provided.

It is apparent from the above that the present invention accomplishes all of the objects set forth by providing a new and improved gutter cover hanger apparatus that is low in cost, relatively simple in design and operation, and which may advantageously be used for supporting the gutter cover. With the invention, a gutter cover hanger apparatus provides a hanger which supports a gutter cover without the need for hammering nails to support the gutter cover. With the invention, a gutter cover hanger apparatus provides a support for the gutter cover which is not supported directly by the lip of the gutter. With the invention, a gutter cover hanger apparatus provides a hanger for supporting a gutter cover which can be retrofitted to a conventional gutter. With the invention, a gutter cover hanger apparatus provides a hanger in which both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover are located above a bottom-located, support end of the hanger. With the invention, a gutter cover hanger apparatus provides both a first coupling portion for a gutter lip and a second coupling portion for a gutter cover which have internal reinforcement structures to provide for increased strength for the respective coupling portions. With the invention, a gutter cover hanger apparatus provides a gutter hanger which includes a support-nail-reception portion which receives a support nail in an upwardly obliquely oriented orientation with respect to an vertically oriented structure so that the support nail can be driven into the vertically oriented structure at an upwardly obliquely oriented orientation.

Thus, while the present invention has been shown in the drawings and fully described above with particularity and detail in connection with what is presently deemed to be the most practical and preferred embodiment(s) of the invention, it will be apparent to those of ordinary skill in the art that many modifications thereof may be made without departing from the principles and concepts set forth herein, including, but not limited to, variations in size, materials, shape, form, function and manner of operation, assembly and use.

10 Hence, the proper scope of the present invention should be determined only by the broadest interpretation of the appended claims so as to encompass all such modifications as well as all relationships equivalent to those illustrated in the drawings and described in the specification.

Finally, it will be appreciated that the purpose of the annexed **Abstract** is to enable the U. S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. Accordingly, the **Abstract** is neither intended to define the invention or the application, which only is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.